

## CLAIMS

1. A hydrogel for use as a soft tissue filler endoprosthesis  
said hydrogel obtainable by combining acrylamide and methylene bis-acrylamide; radical  
5 initiation; and washing with pyrogen-free water or saline solution, so as to give less than  
3.5% by weight polyacrylamide, based on the total weight of the hydrogel
2. The hydrogel according to claim 1, wherein said combining acrylamide and methylene  
bis-acrylamide is in a molar ratio of 150:1 to 1000:1.
- 10 3. The hydrogel according to claim 1, wherein the hydrogel comprises at least 0.5% by  
weight polyacrylamide, based on the total weight of the hydrogel, preferably at least 1%  
by weight polyacrylamide, more preferable at least 1.5% by weight polyacrylamide, such  
as at least 1.6% by weight polyacrylamide, based on the total weight of the hydrogel.
- 15 4. The hydrogel according to claim 3 comprising about 1.9 to 2.9% by weight  
polyacrylamide, based on the total weight of the hydrogel.
5. The hydrogel according to claim 1, wherein the hydrogel comprises at least 95% by  
20 weight pyrogen-free water or saline solution, preferably pyrogen-free water.
6. The hydrogel for according to claim 1 for use as an endoprosthesis for cosmetic or  
reconstructive surgery of the face, cosmetic or reconstructive surgery of the body (body  
contouring), and augmentation or reconstructive surgery of the lips.
- 25 7. The hydrogel according to claim 1, wherein the hydrogel is injectable or implantable,  
preferably injectable.
8. The hydrogel according to claim 1 for use in facial cosmetic or reconstructive surgery  
30 said hydrogel having a complex viscosity of about 2 to 100 Pas, preferably about 5 to 90  
Pas, such as about 5 to 60 Pas, such as about 10 to 60 Pas.
9. The hydrogel according to claim 7 for use in facial cosmetic or reconstructive surgery  
said hydrogel having a complex viscosity of about 2 to 20 Pas, preferably about 2 to 18

Pas, such as about 2 to 15 Pas or 2 to 13 Pas, more preferably 2 to 7 Pas, most preferably 3 to 5 Pas.

10. The hydrogel according to claim 1 for use cosmetic or reconstructive surgery of the body (body contouring), said biocompatible hydrogel having a complex viscosity of about 5 to 50 Pas, preferably about 7 to 40 Pas, most preferably about 7 to 30 Pas.

11. The hydrogel according to claim 1 for use in lip augmentation or lip reconstruction said biocompatible hydrogel having a complex viscosity of about 2 to 10 Pas, more preferably 2 to 7 Pas, most preferably 3 to 5 Pas.

12. The hydrogel according to claim 1 for use in correction of facial contour deformities due to ageing, acne, trauma, surgery, infection or congenital deformities.

13. The hydrogel according to claim 12, wherein the correction is selected from the group consisting of corrections of the cheekbones, corrections of nasolabial folds, corrections of glabellar frowns, corrections of depressed contours of the mouth, corrections to the chin, corrections to size or shape the lips, and corrections to other soft tissue deficiencies of the face.

14. A method of filling soft tissue comprising administering an endoprosthesis wherein the endoprosthesis comprises a hydrogel comprising less than 3.5% by weight polyacrylamide, based on the total weight of the hydrogel.

15. The method according to claim 14, wherein the hydrogel comprises at least 95% by weight pyrogen-free water or saline solution, preferably pyrogen-free water.

16. The method according to claim 14, wherein the endoprosthesis does not comprise of an antibiotic, analgesic or anti-inflammatory agent.

17. The method according to claim 14, wherein the hydrogel is obtainable by combining acrylamide and methylene bis-acrylamide in a molar ratio of 150:1 to 1000:1.

18. The method according to claim 14, wherein the hydrogel comprises at least 0.5% by weight polyacrylamide, based on the total weight of the hydrogel, such as at least 1% by

weight polyacrylamide, preferably at least 1.5% by weight polyacrylamide, such as at least 1.6% by weight polyacrylamide.

19. The method according to claim 14, wherein the hydrogel comprises from about 2.0 to 3.0% by weight polyacrylamide, based on the total weight of the hydrogel.

20. The method according to claim 14, wherein the soft tissue is soft tissue of the face; and wherein the endoprosthesis is for facial cosmetic or reconstructive surgery; and wherein the hydrogel has a complex viscosity of about 2 to 20 Pas, preferably about 2 to 18 Pas, such as about 2 to 15 Pas or 2 to 10 Pas, more preferably 2 to 7 Pas, most preferably 3 to 5 Pas.

21. The method according to claim 14, wherein the soft tissue is soft tissue of the body; and wherein the endoprosthesis is for cosmetic or reconstructive surgery of the body (body contouring), and wherein the hydrogel has a complex viscosity of about 5 to 50 Pas, preferably about 7 to 40 Pas, most preferably about 7 to 30 Pas.

22. The method according to claim 14, wherein the soft tissue is soft tissue of the lip; and wherein the endoprosthesis is for lip augmentation or lip reconstruction; and wherein said hydrogel has a complex viscosity of about 2 to 10 Pas, more preferably 2 to 7 Pas, most preferably 3 to 5 Pas.

23. The method according to claim 14, wherein the administering comprises injecting the hydrogel.

24. The method according to claim 14, wherein the endoprosthesis is for facial cosmetic or reconstructive surgery or body contouring and the injecting is into the subcutaneous layer of the skin.

25. The method according to claim 23, wherein the endoprosthesis is for lip augmentation or lip reconstruction and the injecting is above the muscle tissue of the lip.

26. The method according to claim 23, further comprising administering cells, such as stem cells for cellular engraftment to the surrounding tissue.

27. A prosthetic device for soft tissue augmentation said device being injectable and comprising a polyacrylamide hydrogel  
said hydrogel being obtainable by combining acrylamide and methylene bis-acrylamide;  
radical initiation; and washing with pyrogen-free water or saline solution
- 5 so as to give less than 3.5% by weight polyacrylamide, based on the total weight of the hydrogel.
28. The prosthetic device according to claim 27, wherein the hydrogel comprises at least 0.5% by weight polyacrylamide, based on the total weight of the hydrogel, preferably at
- 10 least 1% by weight polyacrylamide, more preferable at least 1.5% by weight polyacrylamide, such as at least 1.6% by weight polyacrylamide, based on the total weight of the hydrogel.
29. The prosthetic device according to claim 28 comprising about 1.9 to 2.9% by weight
- 15 polyacrylamide, based on the total weight of the hydrogel.
30. The prosthetic device according claim 27, wherein the hydrogel comprises at least 95% by weight pyrogen-free water or saline solution, preferably pyrogen-free water.
- 20 31. The prosthetic device according to claim 27, further comprising cells, such as stem cells for cellular engraftment to the surrounding tissue.